WHAT IS CLAIMED IS:

1. A semiconductor pattern mask comprising:
a mask substrate characterized by a first transmissivity to light;

a plurality of first features on said mask substrate for forming structures in a semiconductor pattern, each of said first features being characterized by a second transmissivity to light; and

a plurality of second features on said mask substrate, each of said second features being characterized by a third transmissivity to light.

2. The semiconductor pattern mask of claim 1 wherein said first transmissivity is substantially opaque and said second transmissivity is substantially transmissive.

3. The semiconductor pattern mask of claim 1 wherein said first transmissivity is substantially transmissive and said second transmissivity is substantially opaque.

4. The semiconductor pattern mask of claim 1 wherein:
said third transmissivity is substantially equal to said second transmissivity; and
each of said second features is smaller than any of said first features, said second features not forming structures in said semiconductor pattern.

5.   The semiconductor pattern mask of claim 4 wherein:

each of said first features has dimensions selected to be imaged by light having a predetermined wavelength; and

each of said second features has dimensions substantially less than said predetermined wavelength.

6.   The semiconductor pattern mask of claim 5 wherein each of said second features has dimensions of between about one-third and about one-half of said predetermined wavelength.

7.   The semiconductor pattern mask of claim 1 wherein said second and third transmissivities differ in relative phase.

8.   The semiconductor pattern mask of claim 7 wherein each of said second features is at least similar in size to said first features, said second features forming structures in said semiconductor pattern.

9.   The semiconductor pattern mask of claim 7 wherein each of said second features is smaller than any of said first features, said second features not forming structures in said semiconductor pattern.

10.   The semiconductor pattern mask of claim 1 wherein at least a subset of said first features are in a nonuniform repetitive pattern.

11. The semiconductor pattern mask of claim 10 wherein said nonuniform repetitive pattern is dense.

12. The semiconductor pattern mask of claim 10 wherein:

said third transmissivity is substantially equal to said second transmissivity;

5   each of said first features has dimensions selected to be imaged by light having a predetermined wavelength; and

each of said second features has dimensions substantially less than said predetermined

10 wavelength, said second features not forming structures in said semiconductor pattern.

13. The semiconductor pattern mask of claim 12 wherein each of said second features has dimensions of between about one-third and about one-half of said predetermined wavelength.

14. The semiconductor pattern mask of claim 10 wherein said second and third transmissivities differ in relative phase.

15. The semiconductor pattern mask of claim 14 wherein each of said second features is at least similar in size to said first features, said second features forming structures in said

5 semiconductor pattern.

16. The semiconductor pattern mask of claim 14 wherein each of said second features is smaller than any of said first features, said second features not forming structures in said semiconductor pattern.

17. The semiconductor pattern mask of claim 10 wherein substantially all of said first features are in said nonuniform repetitive pattern.

18. The semiconductor pattern mask of claim 17 wherein said nonuniform repetitive pattern is dense.

19. The semiconductor pattern mask of claim 17 wherein:

said third transmissivity is substantially equal to said second transmissivity;

each of said first features has dimensions selected to be imaged by light having a predetermined wavelength; and

each of said second features has dimensions substantially less than said predetermined wavelength, said second features not forming structures in said semiconductor pattern.

20. The semiconductor pattern mask of claim 19 wherein each of said second features has dimensions of between about one-third and about one-half of said predetermined wavelength.

21. The semiconductor pattern mask of claim 17 wherein said second and third transmissivities differ in relative phase.

22. The semiconductor pattern mask of claim 21 wherein each of said second features is at least similar in size to said first features, said second features forming structures in said
5 semiconductor pattern.

23. The semiconductor pattern mask of claim 21 wherein each of said second features is smaller than any of said first features, said second features not forming structures in said semiconductor
5 pattern.

24. The semiconductor pattern mask of claim 1 wherein at least a subset of said first features are in a dense nonuniform pattern.

25. The semiconductor pattern mask of claim 24 wherein substantially all of said first features are in said dense nonuniform pattern.

26. The semiconductor pattern mask of claim 24 wherein:

said third transmissivity is substantially equal to said second transmissivity;
5 each of said first features has dimensions selected to be imaged by light having a predetermined wavelength; and

each of said second features has
dimensions substantially less than said predetermined
10   wavelength, said second features not forming structures
in said semiconductor pattern.

27.   The semiconductor pattern mask of
claim 26 wherein each of said second features has
dimensions of between about one-third and about one-
half of said predetermined wavelength.

28.   The semiconductor pattern mask of
claim 24 wherein said second and third transmissivities
differ in relative phase.

29.   The semiconductor pattern mask of
claim 28 wherein each of said second features is at
least similar in size to said first features, said
second features forming structures in said
5   semiconductor pattern.

30.   The semiconductor pattern mask of
claim 28 wherein each of said second features is
smaller than any of said first features, said second
features not forming structures in said semiconductor
5   pattern.

31.   A semiconductor manufacturing method
comprising:

providing a semiconductor substrate
having a photosensitive surface;
5   providing a semiconductor pattern mask
comprising:

a mask substrate characterized by a first transmissivity to light,

10 a plurality of first features on said mask substrate for forming structures in a semiconductor pattern, each of said first features being characterized by a second transmissivity to light, and

15 a plurality of second features on said mask substrate, each of said second features being characterized by a third transmissivity to light;

exposing said photosensitive surface to light through said mask; and

processing said exposed photosensitive 20 surface to develop said structures on said semiconductor substrate.

32. The method of claim 31 wherein said first transmissivity is substantially opaque and said second transmissivity is substantially transmissive.

33. The method of claim 31 wherein said first transmissivity is substantially transmissive and said second transmissivity is substantially opaque.

34. The method of claim 31 wherein:

said third transmissivity is substantially equal to said second transmissivity; and

each of said second features is smaller 5 than any of said first features, said second features not forming structures in said semiconductor pattern.

35. The method of claim 34 wherein:

each of said first features has
dimensions selected to be imaged by light having a
predetermined wavelength; and

each of said second features has
dimensions substantially less than said predetermined
wavelength.

36. The method of claim 35 wherein each of
said second features has dimensions of between about
one-third and about one-half of said predetermined
wavelength.

37. The method of claim 31 wherein said
second and third transmissivities differ in relative
phase.

38. The method of claim 37 wherein each of
said second features is at least similar in size to
said first features, said second features forming
structures in said semiconductor pattern.

39. The method of claim 37 wherein each of
said second features is smaller than any of said first
features, said second features not forming structures
in said semiconductor pattern.

40. The method of claim 31 wherein at least
a subset of said first features are in a nonuniform
repetitive pattern.

41. The method of claim 40 wherein said
nonuniform repetitive pattern is dense.

42. The method of claim 40 wherein:

said third transmissivity is substantially equal to said second transmissivity;

said exposing comprises exposing said
5 photosensitive surface to light having a predetermined wavelength; and

each of said second features has dimensions substantially less than said predetermined wavelength, said second features not forming structures
10 in said semiconductor pattern.

43. The method of claim 42 wherein each of said second features has dimensions of between about one-third and about one-half of said predetermined wavelength.

44. The method of claim 40 wherein said second and third transmissivities differ in relative phase.

45. The method of claim 44 wherein each of said second features is at least similar in size to said first features, said second features forming structures in said semiconductor pattern.

46. The method of claim 44 wherein each of said second features is smaller than any of said first features, said second features not forming structures in said semiconductor pattern.

47. The method of claim 40 wherein substantially all of said first features are in said nonuniform repetitive pattern.

48. The method of claim 47 wherein said nonuniform repetitive pattern is dense.

49. The method of claim 47 wherein:
said third transmissivity is substantially equal to said second transmissivity;
said exposing comprises exposing said
5 photosensitive surface to light having a predetermined wavelength; and
each of said second features has dimensions substantially less than said predetermined wavelength, said second features not forming structures
10 in said semiconductor pattern.

50. The method of claim 49 wherein each of said second features has dimensions of between about one-third and about one-half of said predetermined wavelength.

51. The method of claim 47 wherein said second and third transmissivities differ in relative phase.

52. The method of claim 51 wherein each of said second features is at least similar in size to said first features, said second features forming structures in said semiconductor pattern.

53. The method of claim 51 wherein each of said second features is smaller than any of said first features, said second features not forming structures in said semiconductor pattern.

54. The method of claim 31 wherein at least a subset of said first features are in a dense nonuniform pattern.

55. The method of claim 54 wherein substantially all of said first features are in said dense nonuniform pattern.

56. The method of claim 54 wherein:
said third transmissivity is substantially equal to said second transmissivity;
said exposing comprises exposing said
5 photosensitive surface to light having a predetermined wavelength; and
each of said second features has dimensions substantially less than said predetermined wavelength, said second features not forming structures
10 in said semiconductor pattern.

57. The method of claim 56 wherein each of said second features has dimensions of between about one-third and about one-half of said predetermined wavelength.

58. The method of claim 54 wherein said second and third transmissivities differ in relative phase.

59. The method of claim 58 wherein each of said second features is at least similar in size to said first features, said second features forming structures in said semiconductor pattern.

60. The method of claim 58 wherein each of said second features is smaller than any of said first features, said second features not forming structures in said semiconductor pattern.